A Story of Ratios®

# Eureka Math™

## Grade 6, Module 4

## Student File_B

*Contains Sprint and Fluency, Exit Ticket, and Assessment Materials*

**Published by the non-profit Great Minds.**

Copyright © 2015 Great Minds. No part of this work may be reproduced, sold, or commercialized, in whole or in part, without written permission from Great Minds. Non-commercial use is licensed pursuant to a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 license; for more information, go to http://greatminds.net/maps/math/copyright. "Great Minds" and "Eureka Math" are registered trademarks of Great Minds.

Printed in the U.S.A.
This book may be purchased from the publisher at eureka-math.org
10 9 8 7 6 5 4 3 2 1

# Exit Ticket Packet

Name _____ Date _____

# Lesson 1: The Relationship of Addition and Subtraction

## Exit Ticket

1. Draw tape diagrams to represent each of the following number sentences.
   a. $3 + 5 - 5 = 3$

   b. $8 - 2 + 2 = 8$

2. Fill in each blank.
   a. $65 +$ _____ $-15 = 65$

   b. _____ $+ g - g = k$

   c. $a + b -$ _____ $= a$

   d. $367 - 93 + 93 =$ _____



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 2: The Relationship of Multiplication and Division

## Exit Ticket

1. Fill in the blanks to make each equation true.

   a. $12 \div 3 \times _____ = 12$

   b. $f \times h \div h = _____$

   c. $45 \times _____ \div 15 = 45$

   d. $_____ \div r \times r = p$

2. Draw a series of tape diagrams to represent the following number sentences.

   a. $12 \div 3 \times 3 = 12$

   b. $4 \times 5 \div 5 = 4$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 3: The Relationship of Multiplication and Addition

## Exit Ticket

Write an equivalent expression to show the relationship of multiplication and addition.

1. $8 + 8 + 8 + 8 + 8 + 8 + 8 + 8 + 8$

2. $4 \times 9$

3. $6 + 6 + 6$

4. $7h$

5. $j + j + j + j + j$

6. $u + u + u + u + u + u + u + u + u + u$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 4: The Relationship of Division and Subtraction

## Exit Ticket

1. Represent $56 \div 8 = 7$ using subtraction. Explain your reasoning.

2. Explain why $30 \div x = 6$ is the same as $30 - x - x - x - x - x - x = 0$. What is the value of $x$ in this example?



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 5: Exponents

## Exit Ticket

1. What is the difference between $6z$ and $z^6$?

2. Write $10^3$ as a multiplication expression having repeated factors.

3. Write $8 \times 8 \times 8 \times 8$ using an exponent.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 6: The Order of Operations

## Exit Ticket

1. Evaluate this expression: $39 \div (2 + 1) - 2 \times (4 + 1)$.

2. Evaluate this expression: $12 \times (3 + 2^2) \div 2 - 10$.

3. Evaluate this expression: $12 \times (3 + 2)^2 \div 2 - 10$.



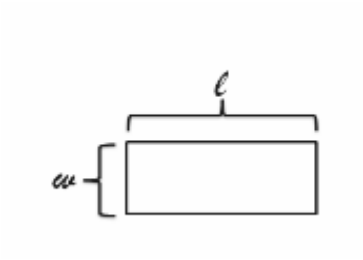
This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 7: Replacing Letters with Numbers

## Exit Ticket

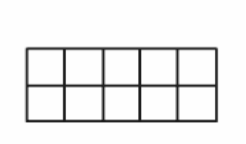
1. In the drawing below, what do the letters $l$ and $w$ represent?




2. What does the expression $l + w + l + w$ represent?

3. What does the expression $l \cdot w$ represent?

4. The rectangle below is congruent to the rectangle shown in Problem 1. Use this information to evaluate the expressions from Problems 2 and 3.





This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 8: Replacing Numbers with Letters

## Exit Ticket

1. State the commutative property of addition, and provide an example using two different numbers.

2. State the commutative property of multiplication, and provide an example using two different numbers.

3. State the additive property of zero, and provide an example using any other number.

4. State the multiplicative identity property of one, and provide an example using any other number.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 9: Writing Addition and Subtraction Expressions

## Exit Ticket

1. Write an expression showing the sum of $8$ and a number $f$.

2. Write an expression showing $5$ less than the number $k$.

3. Write an expression showing the sum of a number $h$ and a number $w$ minus $11$.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 10: Writing and Expanding Multiplication Expressions

## Exit Ticket

1. Rewrite the expression in standard form (use the fewest number of symbols and characters possible).
   a. $5g \cdot 7h$

   b. $3 \cdot 4 \cdot 5 \cdot m \cdot n$

2. Name the parts of the expression. Then, write it in expanded form.
   a. $14b$

   b. $30jk$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 11: Factoring Expressions

## Exit Ticket

Use greatest common factor and the distributive property to write equivalent expressions in factored form.

1. $2x + 8y$

2. $13ab + 15ab$

3. $20g + 24h$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 12: Distributing Expressions

## Exit Ticket

Use the distributive property to write the following expressions in expanded form.

1. $2(b + c)$

2. $5(7h + 3m)$

3. $e(f + g)$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 13: Writing Division Expressions

## Exit Ticket

Rewrite the expressions using the division symbol and as a fraction.

1. The quotient of $m$ and 7

2. Five divided by the sum of $a$ and $b$

3. The quotient of $k$ decreased by 4 and 9



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 14: Writing Division Expressions

## Exit Ticket

1. Write the division expression in words and as a fraction.

$$(g + 12) \div h$$

2. Write the following division expression using the division symbol and as a fraction: $f$ divided by the quantity $h$ minus $3$.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 15: Read Expressions in Which Letters Stand for Numbers

## Exit Ticket

1. Write two word expressions for each problem using different math vocabulary for each expression.
   a. $5d - 10$

   b. $\frac{a}{b+2}$

2. List five different math vocabulary words that could be used to describe each given expression.
   a. $3(d - 2) + 10$

   b. $\frac{ab}{c}$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 16: Write Expressions in Which Letters Stand for Numbers

## Exit Ticket

Mark the text by underlining key words, and then write an expression using variables and/or numbers for each of the statements below.

1. Omaya picked $x$ amount of apples, took a break, and then picked $v$ more. Write the expression that models the total number of apples Omaya picked.

2. A number $h$ is tripled and then decreased by $8$.

3. Sidney brought $s$ carrots to school and combined them with Jenan's $j$ carrots. She then splits them equally among $8$ friends.

4. $15$ less than the quotient of $e$ and $d$

5. Marissa's hair was $10$ inches long, and then she cut $h$ inches.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 17: Write Expressions in Which Letters Stand for Numbers

## Exit Ticket

Write an expression using letters and/or numbers for each problem below.

1. $d$ squared

2. A number $x$ increased by $6$, and then the sum is doubled.

3. The total of $h$ and $b$ is split into $5$ equal groups.

4. Jazmin has increased her $\$45$ by $m$ dollars and then spends a third of the entire amount.

5. Bill has $d$ more than $3$ times the number of baseball cards as Frank. Frank has $f$ baseball cards.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 18: Writing and Evaluating Expressions—Addition and Subtraction

## Exit Ticket

Kathleen lost a tooth today. Now she has lost $4$ more than her sister Cara lost.

1. Write an expression to represent the number of teeth Cara has lost. Let $K$ represent the number of teeth Kathleen lost.

   Expression:

2. Write an expression to represent the number of teeth Kathleen has lost. Let $C$ represent the number of teeth Cara lost.

   Expression:

3. If Cara lost $3$ teeth, how many teeth has Kathleen lost?



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 19: Substituting to Evaluate Addition and Subtraction Expressions

## Exit Ticket

Jenna and Allie work together at a piano factory. They both were hired on January 3, but Jenna was hired in 2005, and Allie was hired in 2009.

a. Fill in the table below to summarize the two workers' experience totals.

| Year | Allie's Years of Experience | Jenna's Years of Experience |
|---|---|---|
| 2010 | | |
| 2011 | | |
| 2012 | | |
| 2013 | | |
| 2014 | | |

b. If both workers continue working at the piano factory, when Allie has $A$ years of experience on the job, how many years of experience will Jenna have on the job?

c. If both workers continue working at the piano factory, when Allie has $20$ years of experience on the job, how many years of experience will Jenna have on the job?



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 20: Writing and Evaluating Expressions—Multiplication and Division

## Exit Ticket

Anna charges $\$8.50$ per hour to babysit. Complete the table, and answer the questions below.

| Number of Hours | Amount Anna Charges in Dollars |
|---|---|
| 1 | |
| 2 | |
| 5 | |
| 8 | |
| $H$ | |

a. Write an expression describing her earnings for working $H$ hours.

b. How much will she earn if she works for $3\frac{1}{2}$ hours?

c. How long will it take Anna to earn $\$51.00$?



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 21: Writing and Evaluating Expressions—Multiplication and Addition

## Exit Ticket

Krystal Klear Cell Phone Company charges $\$5.00$ per month for service. The company also charges $\$0.10$ for each text message sent.

a. Complete the table below to calculate the monthly charges for various numbers of text messages sent.

| Number of Text Messages Sent ($T$) | Total Monthly Bill in Dollars |
|---|---|
| 0 | |
| 10 | |
| 20 | |
| 30 | |
| $T$ | |

b. If Suzannah's budget limit is $\$10$ per month, how many text messages can she send in one month?



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 22: Writing and Evaluating Expressions—Exponents

## Exit Ticket

1. Naomi's allowance is $2.00 per week. If she convinces her parents to double her allowance each week for two months, what will her weekly allowance be at the end of the second month (week 8)?

| Week Number | Allowance |
|---|---|
| 1 | $2.00 |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| $w$ | |

2. Write the expression that describes Naomi's allowance during week $w$ in dollars.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 23: True and False Number Sentences

## Exit Ticket

Substitute the value for the variable, and state in a complete sentence whether the resulting number sentence is true or false. If true, find a value that would result in a false number sentence. If false, find a value that would result in a true number sentence.

1. $15a \geq 75$. Substitute $5$ for $a$.

2. $23 + b = 30$. Substitute $10$ for $b$.

3. $20 > 86 - h$. Substitute $46$ for $h$.

4. $32 \geq 8m$. Substitute $5$ for $m$.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 24: True and False Number Sentences

## Exit Ticket

State when the following equations and inequalities will be true and when they will be false.

1. $5g > 45$

2. $14 = 5 + k$

3. $26 - w < 12$

4. $32 \leq a + 8$

5. $2 \cdot h \leq 16$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 25: Finding Solutions to Make Equations True

## Exit Ticket

Find the solution to each equation.

1. $7f = 49$

2. $1 = \frac{r}{12}$

3. $1.5 = d + 0.8$

4. $9^2 = h$

5. $q = 45 - 19$

6. $40 = \frac{1}{2}p$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 26: One-Step Equations—Addition and Subtraction

## Exit Ticket

1. If you know the answer, state it. Then, use a tape diagram to demonstrate why this is the correct answer. If you do not know the answer, find the solution using a tape diagram.

$$j + 12 = 25$$

2. Find the solution to the equation algebraically. Check your answer.

$$k - 16 = 4$$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 27: One-Step Equations—Multiplication and Division

## Exit Ticket

Calculate the solution to each equation below using the indicated method. Remember to check your answers.

1. Use tape diagrams to find the solution of $\frac{r}{10} = 4$.

2. Find the solution of $64 = 16u$ algebraically.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

3. Use the method of your choice to find the solution of $12 = 3v$.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 28: Two-Step Problems—All Operations

## Exit Ticket

Use tape diagrams and equations to solve the problem with visual models and algebraic methods.

Alyssa is twice as old as Brittany, and Jazmyn is $15$ years older than Alyssa. If Jazmyn is $35$ years old, how old is Brittany? Let $a$ represent Alyssa's age in years and $b$ represent Brittany's age in years.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 29: Multi-Step Problems—All Operations

## Exit Ticket

Solve the problem using tables and equations, and then check your answer with the word problem. Try to find the answer only using two rows of numbers on your table.

A pet store owner, Byron, needs to determine how much food he needs to feed the animals. Byron knows that he needs to order the same amount of bird food as hamster food. He needs four times as much dog food as bird food and needs half the amount of cat food as dog food. If Byron orders $600$ packages of animal food, how much dog food does he buy? Let $b$ represent the number of packages of bird food Byron purchased for the pet store.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

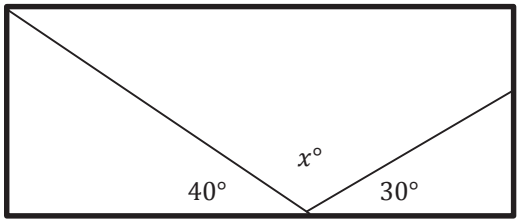
# Lesson 30: One-Step Problems in the Real World

## Exit Ticket

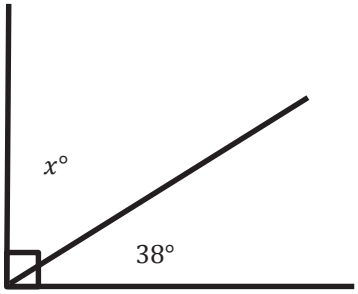
Write an equation, and solve for the missing angle in each question.

1. Alejandro is repairing a stained glass window. He needs to take it apart to repair it. Before taking it apart, he makes a sketch with angle measures to put it back together.

   Write an equation, and use it to determine the measure of the unknown angle.




2. Hannah is putting in a tile floor. She needs to determine the angles that should be cut in the tiles to fit in the corner. The angle in the corner measures $90°$. One piece of the tile will have a measure of $38°$. Write an equation, and use it to determine the measure of the unknown angle.






This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 31: Problems in Mathematical Terms

## Exit Ticket

For each problem, determine the independent and dependent variables, write an equation to represent the situation, and then make a table with at least $5$ values that models the situation.

1. Kyla spends $60$ minutes of each day exercising. Let $d$ be the number of days that Kyla exercises, and let $m$ represent the total minutes of exercise in a given time frame. Show the relationship between the number of days that Kyla exercises and the total minutes that she exercises.

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |

Independent variable _____

Dependent variable _____

Equation _____

2. A taxicab service charges a flat fee of $\$8$ plus an additional $\$1.50$ per mile. Show the relationship between the total cost and the number of miles driven.

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |

Independent variable _____

Dependent variable _____

Equation _____



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 32: Multi-Step Problems in the Real World

## Exit Ticket

Determine which variable is the independent variable and which variable is the dependent variable. Write an equation, make a table, and plot the points from the table on the graph.

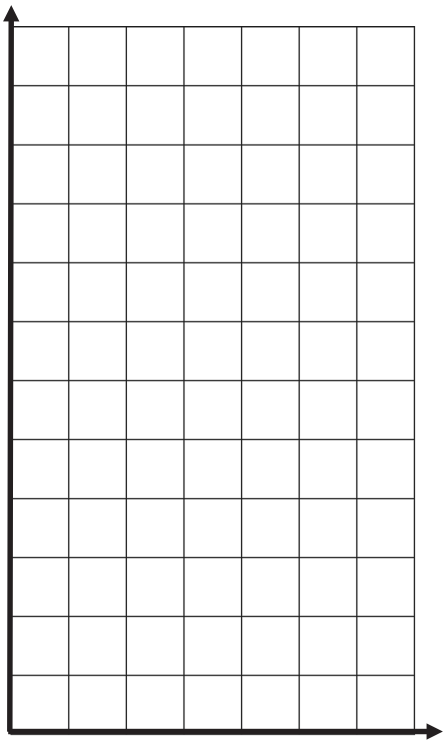
Enoch can type $40$ words per minute. Let $w$ be the number of words typed and $m$ be the number of minutes spent typing.

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

Independent variable _____

Dependent variable _____

Equation _____





This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

# Lesson 33: From Equations to Inequalities

## Exit Ticket

Choose the number(s), if any, that make the equation or inequality true from the following set of numbers: $\{3, 4, 7, 9, 12, 18, 32\}$.

1. $\frac{1}{3}f = 4$

2. $\frac{1}{3}f < 4$

3. $m + 7 = 20$

4. $m + 7 \geq 20$



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

Name _____ Date _____

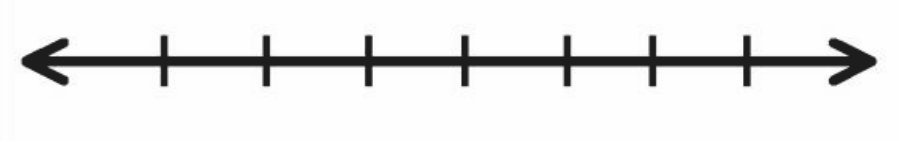
# Lesson 34: Writing and Graphing Inequalities in Real-World Problems

## Exit Ticket

For each question, write an inequality. Then, graph your solution.

1. Keisha needs to make at least 28 costumes for the school play. Since she can make 4 costumes each week, Keisha plans to work on the costumes for at least 7 weeks.

2. If Keisha has to have the costumes complete in 10 weeks or fewer, how will our solution change?





This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-ETP-1.3.0-07.2015

# Assessment Packet

Name _____ Date _____

1. Yolanda is planning out her vegetable garden. She decides that her garden will be square. Below are possible sizes of the garden she will create.

   a. Complete the table by continuing the pattern.

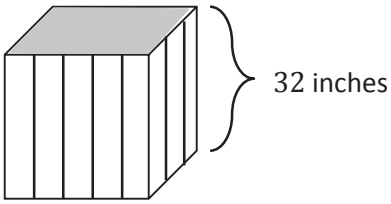
| Side Length | 1 foot | 2 feet | 3 feet | 4 feet | 5 feet | $x$ feet |
|---|---|---|---|---|---|---|
| **Notation** | $1^2 = 1 \cdot 1 = 1$ | | | | | |
| **Formula** | $A = l \cdot w$<br>$A = 1 \text{ ft} \cdot 1 \text{ ft}$<br>$A = 1^2 \text{ ft}^2$<br>$A = 1 \text{ ft}^2$ | | | | | |
| **Representation** | | | | | | |

   b. Yolanda decides the length of her square vegetable garden will be $17$ ft. She calculates that the area of the garden is $34 \text{ ft}^2$. Determine if Yolanda's calculation is correct. Explain.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015

2. Yolanda creates garden cubes to plant flowers. She will fill the cubes with soil and needs to know the amount of soil that will fill each garden cube. The volume of a cube is determined by the following formula: $V = s^3$, where $s$ represents the side length.




a. Represent the volume, in cubic inches, of the garden cube above using a numerical expression.

b. Evaluate the expression to determine the volume of the garden cube and the amount of soil, in cubic inches, she will need for each cube.

3. Explain why $\left(\frac{1}{2}\right)^4 = \frac{1}{16}$.

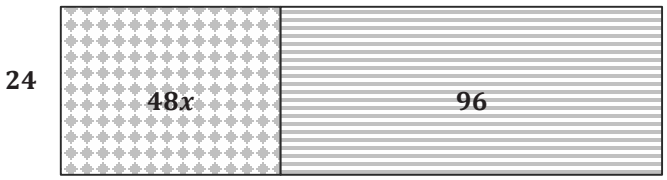


This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015

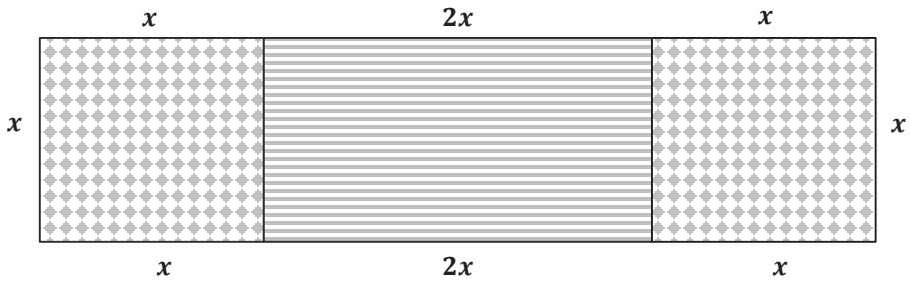
4. Yolanda is building a patio in her backyard. She is interested in using both brick and wood for the flooring of the patio. Below is the plan she has created for the patio. All measurements are in feet.

   a. Create an expression to represent the area of the patio.

   b. Yolanda's husband develops another plan for the patio because he prefers the patio to be much wider than Yolanda's plan. Determine the length of the brick section and the length of the wood section. Then, use the dimensions to write an expression that represents the area of the entire patio.




5. The landscaper hired for Yolanda's lawn suggests a patio that has the same measure of wood as it has brick.




   a. Express the perimeter of the patio in terms of $x$, first using addition and then using multiplication.

   b. Use substitution to determine if your expressions are equivalent. Explain.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015

6. Elena and Jorge have similar problems and find the same answer. Each determines that the solution to the problem is $24$.

   Elena: $(14 + 42) \div 7 + 4^2$ Jorge: $14 + (42 \div 7) + 4^2$

   a. Evaluate each expression to determine if both Elena and Jorge are correct.

   b. Why would each find the solution of $24$? What mistakes were made, if any?

7. Jackson gave Lena this expression to evaluate: $14(8 + 12)$. Lena said that to evaluate the expression was simple; just multiply the factors $14$ and $20$. Jackson told Lena she was wrong. He solved it by finding the product of $14$ and $8$ and then adding that to the product of $14$ and $12$.

   a. Evaluate the expression using each student's method.

| Lena's Method | Jackson's Method |
|---|---|
| | |

   b. Who was right in this discussion? Why?



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015

Name _____ Date _____

1. Gertrude is deciding which cell phone plan is the best deal for her to buy. Super Cell charges a monthly fee of $\$10$ and also charges $\$0.15$ per call. She makes a note that the equation is $M = 0.15C + 10$, where $M$ is the monthly charge, in dollars, and $C$ is the number of calls placed. Global Cellular has a plan with no monthly fee but charges $\$0.25$ per call. She makes a note that the equation is $M = 0.25C$, where $M$ is the monthly charge, in dollars, and $C$ is the number of calls placed. Both companies offer unlimited text messages.

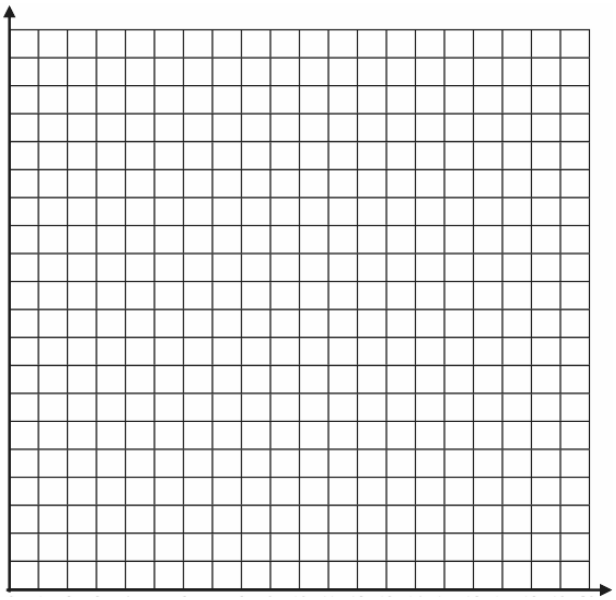
   a. Make a table for both companies showing the cost of service, $M$, for making from $0$ to $200$ calls per month. Use multiples of $20$.

| | Cost of Services, $M$, in Dollars | |
|---|---|---|
| **Number of Calls, $C$** | **Super Cell $M = 0.15C + 10$** | **Global Cellular $M = 0.25C$** |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015

b. Construct a graph for the two equations on the same graph. Use the number of calls, $C$, as the independent variable and the monthly charge, in dollars, $M$, as the dependent variable.



c. Which cell phone plan is the best deal for Gertrude? Defend your answer with specific examples.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015

2. Sadie is saving her money to buy a new pony, which costs $\$600$. She has already saved $\$75$. She earns $\$50$ per week working at the stables and wonders how many weeks it will take to earn enough for a pony of her own.

   a. Make a table showing the week number, $W$, and total savings, in dollars, $S$, in Sadie's savings account.

| **Number of Weeks** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Savings (in dollars)** | | | | | | | | | | | | |

   b. Show the relationship between the number of weeks and Sadie's savings using an expression.

   c. How many weeks will Sadie have to work to earn enough to buy the pony?



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015

3. The elevator at the local mall has a weight limit of $1{,}800$ pounds and requires that the maximum person allowance be no more than nine people.

   a. Let $x$ represent the number of people. Write an inequality to describe the maximum allowance of people allowed in the elevator at one time.

   b. Draw a number line diagram to represent all possible solutions to part (a).

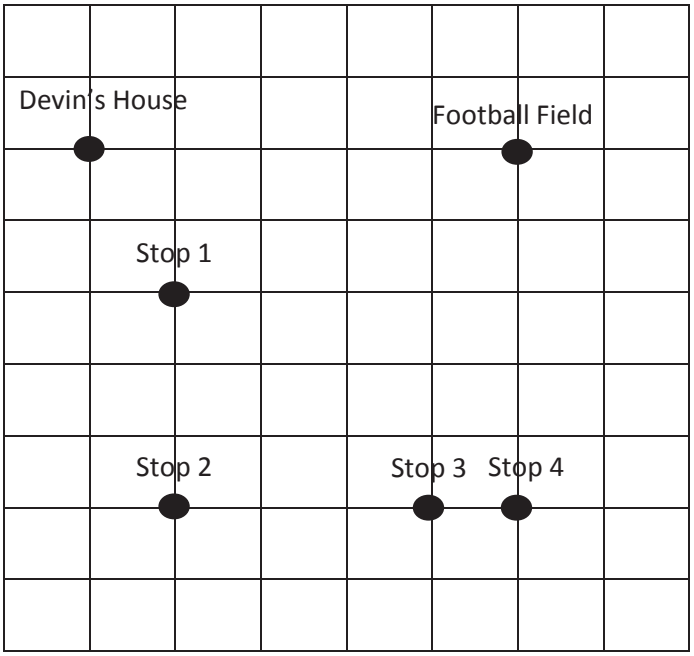
   c. Let $w$ represent the amount of weight, in pounds. Write an inequality to describe the maximum weight allowance in the elevator at one time.

   d. Draw a number line diagram to represent all possible solutions to part (c).



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015

4. Devin's football team carpools for practice every week. This week is his parents' turn to pick up team members and take them to the football field. While still staying on the roads, Devin's parents always take the shortest route in order to save gasoline. Below is a map of their travels. Each gridline represents a street and the same distance.




Devin's father checks his mileage and notices that he drove $18$ miles between his house and Stop 3.

a. Create an equation, and determine the amount of miles each gridline represents.

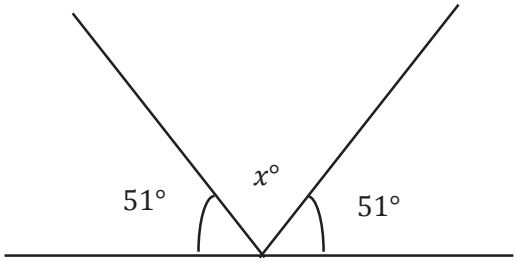
b. Using this information, determine how many total miles Devin's father will travel from home to the football field, assuming he made every stop. Explain how you determined the answer.

c. At the end of practice, Devin's father dropped off team members at each stop and went back home. How many miles did Devin's father travel all together?



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015

5. For a science experiment, Kenneth reflects a beam off a mirror. He is measuring the missing angle created when the light reflects off the mirror. (Note: The figure is not drawn to scale.)




Use an equation to determine the missing angle, labeled $x$ in the diagram.



This work is derived from Eureka Math ™ and licensed by Great Minds. ©2015 Great Minds. eureka-math.org
G6-M4-AP-1.3.0-07.2015